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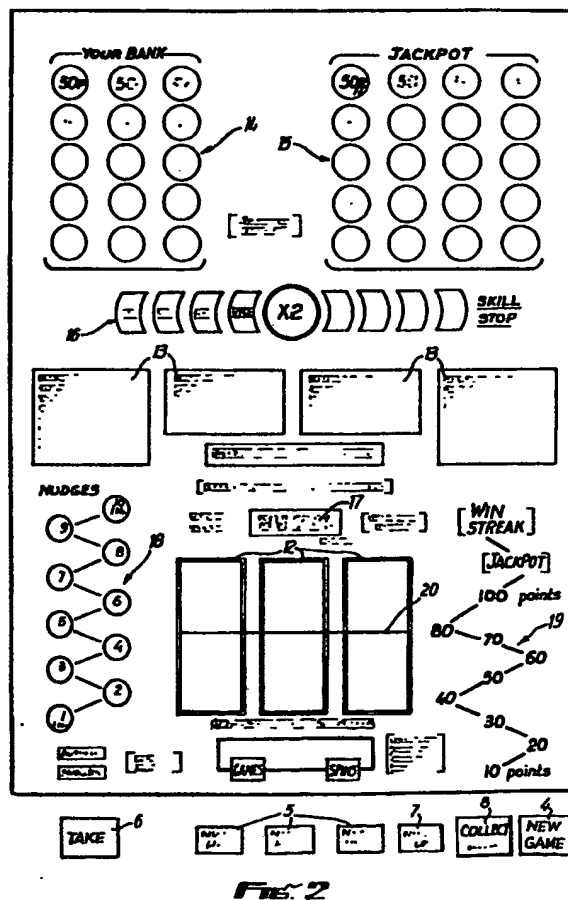
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## (54) Entertainment machines

(57) A coin-operated entertainment machine selects and displays a combination of symbols for example by rotation of symbol-bearing reels behind a window (12). Multiple opportunities are given for selecting symbol combinations during play of a game, and a score is allocated to each attained combination. The scores are totalised and a win indication is given if the total score at the end of a game has reached a predetermined level. The total score may also be checked against scores obtained in previous games whereby the highest score can be displayed. The machine may be a fruit machine and features such as nudge, hold, gamble and jackpot may be incorporated.

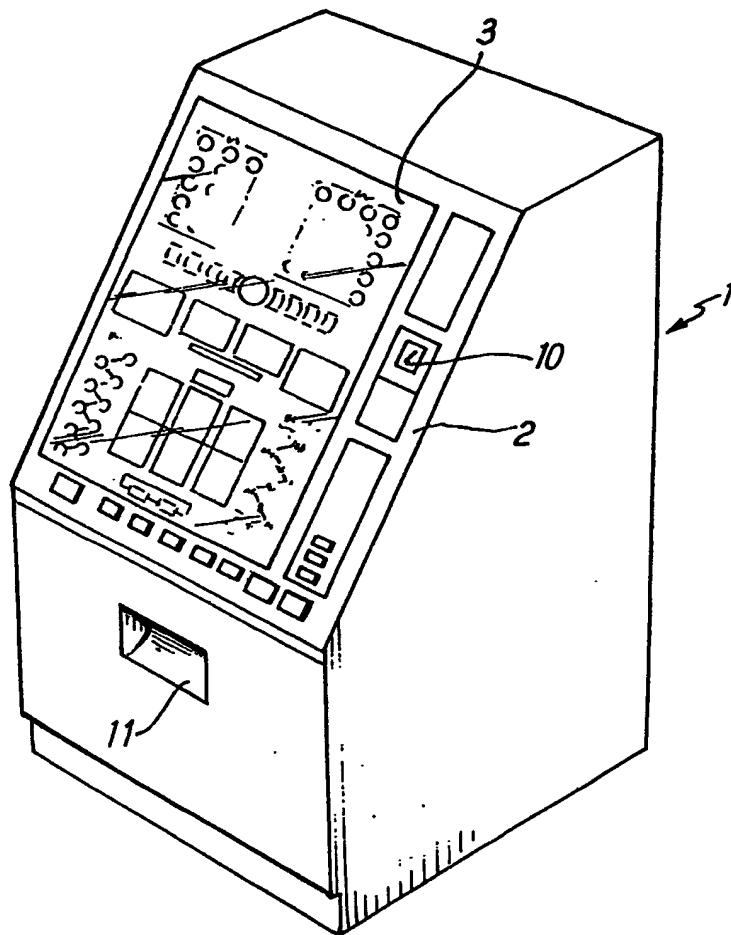


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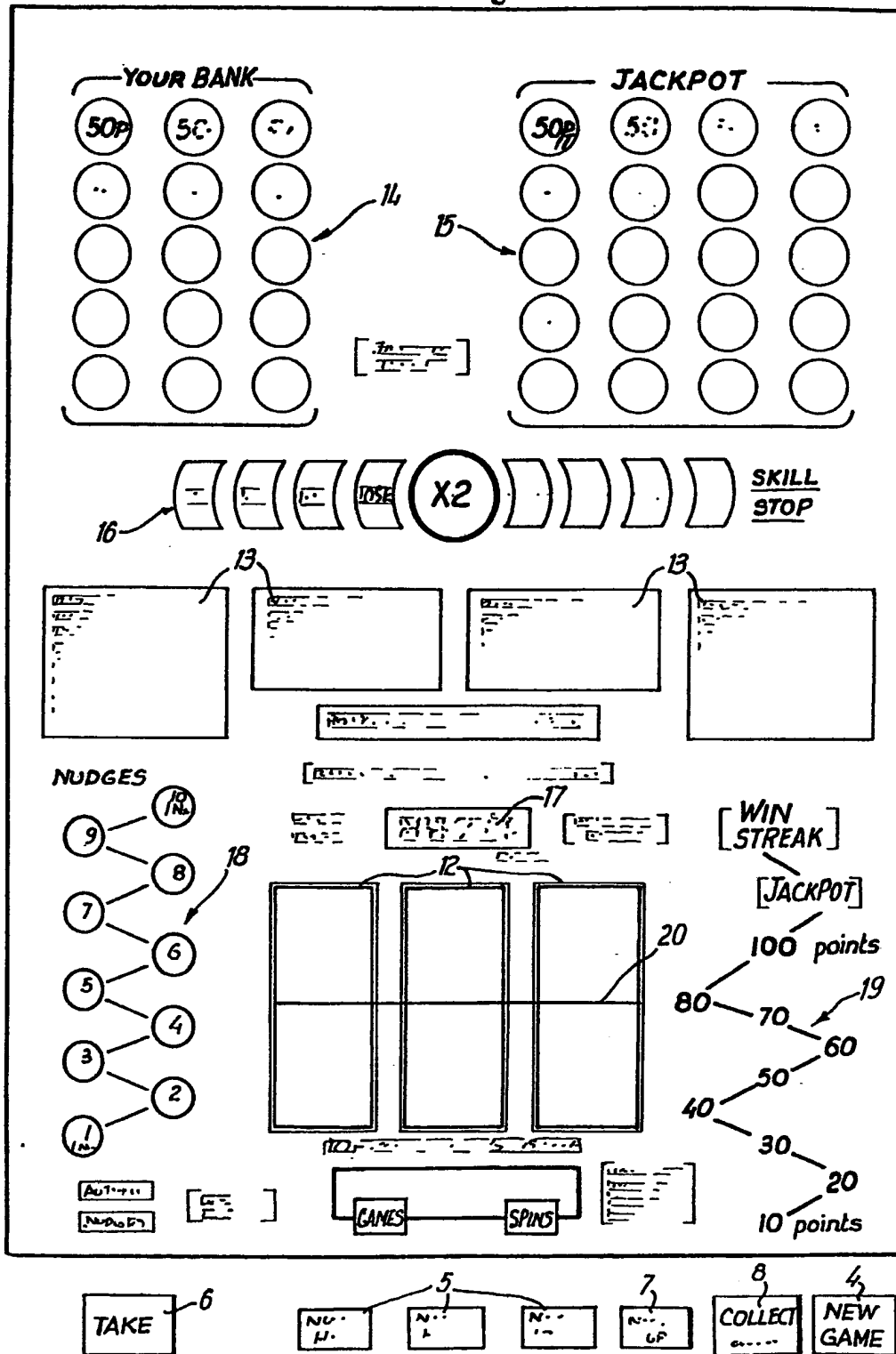


**FIG. 1**

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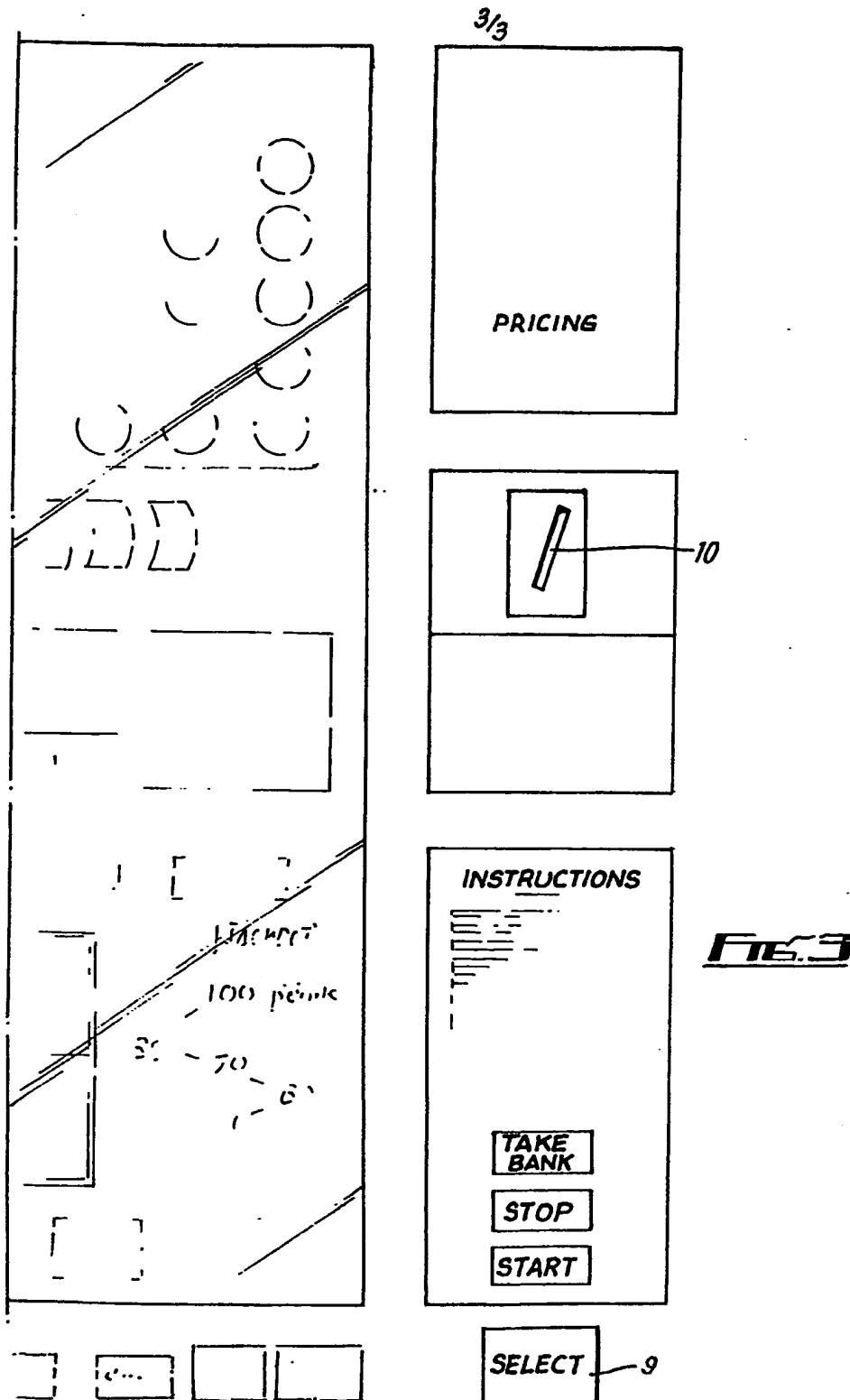
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## SPECIFICATION

## Entertainment machines

5 This invention relates to a coin- (or token-) operated entertainment machine of the kind which is operable to play games involving a procedure in which a combination of symbols is selected and displayed. The invention is more particularly, although not exclusively, concerned with such a machine which is a fruit machine and with which the displayed symbols (typically representations of fruit) are selected at random, for example by rotation of reels or by change of a video display simulating the rotation of reels.

Present day electronic fruit machines afford considerable playing entertainment as well as giving an opportunity of winning prizes. Players enjoy using feature controls, such as "hold", "gamble" and "nudge" buttons especially if there is some scope for the exercise of skill. The goal of an appreciable prize is important, but so is the entertainment factor as is apparent from the fact that prize awards of coins (or tokens) are often used by players to purchase new games.

With known machines some games result in no awards and no opportunities to use feature controls. Thus, there is the problem that an unfortunate player may have to spend much money to achieve prolonged entertainment. One way of overcoming this problem would be to increase the likelihood of winning but, since it is already common to return a high proportion of inserted coins (or tokens) as prizes (e.g. 80%), to be feasible this would require decreasing the average prize value and therefore reducing the interest derived from pursuing the goal of an appreciable prize. Another way of overcoming the problem would be to ensure that feature controls are available to the same extent in all games, but this would introduce an unacceptable level of predictability and also would necessitate a decrease in average prize value in so far as the increased availability of feature controls gives an increased likelihood of winning.

An object of the present invention is to provide an entertainment machine with which it is feasible to ensure prolonged entertainment value whilst maintaining the inducement of an appreciable goal.

According to the invention therefore there is provided a coin- (or token-) operated entertainment machine which is operable to play games involving a procedure in which a combination of symbols is selected and displayed, characterised in that in each game there is a plurality of opportunities to effect said selection and display procedure, each said procedure results in the production of a score determined by the selected combination, and a win indication is given at the end of the game in the event that said scores considered cu-

mulative are of a predetermined nature.

With this arrangement, it will be understood that, whatever the final outcome of the game, the player is assured of a prolonged period of entertainment since he is provided with multiple opportunities for selecting and displaying symbol combinations. Moreover, the increase in game duration can be compensated in an acceptable manner by reduced likelihood of winning in so far as the attainment and accumulation of the scores can provide in itself a high level of player motivation.

Most preferably each game involves a predetermined plurality of selection and display opportunities, say, five. Preferably also the individual scores are accumulated to give a total numerical value and the win indication is given in the event that a predetermined value is reached or exceeded. There may be only one type of win indication, or there may be different categories of win indication corresponding for example to the attainment of different totalised score values. The or each win indication may be accompanied by the availability of a payout of coins and/or tokens. There may be provision for retaining and displaying a record of highest attained totalised scores to encourage competition between players.

Preferably, and especially where the machine is a fruit machine, the said procedures can be influenced or modified by features such as, a "hold" feature whereby one or more symbols can be held against change during a selection procedure, and/or a "nudge" feature whereby one or more symbols can be changed at the end of a selection procedure by stepwise indexing through a predetermined sequence of symbols. The or each such feature may be made available on a random or predetermined basis for each respective procedure. Alternatively a number of feature operations, determined on a predetermined or random basis, may be made available at the start of a game to be used as desired by the player in any of the selection procedure.

A "gamble" feature may be provided whereby the player is given the opportunity of increasing the value of a score or an award, for example by pressing a button as "double" and "lose" indicators are alternately illuminated, the aim being for the player to synchronise, by the exercise of skill, pressing of the button with illumination of the double indicator.

At the end of a game there may be the possibility, on a random or predetermined basis, that one or more features (e.g. nudge features) and/or the totalised score and/or an available payout may be carried forward to the next game. The arrangement may be such that the likelihood of this is never greater than 50%.

The machine of the invention is preferably a fruit machine of the kind described above.

The invention will now be described further

by way of example only and with reference to the accompanying drawings in which:

Figure 1 is a diagrammatic view of one form of an entertainment machine according to the invention; and

Figures 2 + 3 are more detailed views of the front of the machine.

The entertainment machine shown in the drawings is a fruit machine and comprises a floor-standing box-shaped housing 1 having a front wall 2 which includes a screen-printed glass sheet 3 and below this a series of operating buttons including a start button 4, hold/nudge buttons 5 and various other control buttons 6, 7, 8, 9. There is also a coin slot 10 and a payout opening 11.

Within the housing there are three axially aligned reels having say 20 symbols (such as pictures of fruit) at regularly spaced positions around their peripheries. The reels are axially rotatable and are drivably connected to respective stepper motors. The reels are arranged behind a window 12 defined by a printed region of the glass panel 3. Each reel can be arrested by the respective stepper motor in any of 20 stepping positions in which one symbol is in precise registration with a horizontal win line 20 in the centre of the window 12 and two further symbols are visible above and below the win line.

The stepper motors are connected to a microprocessor-based control unit. This unit is also connected to a coin mechanism, a payout mechanism, the buttons 5-9, various lamps behind printed display regions of the panel 3 and lamps in the buttons 5-9.

The panel bears printed matter additional to the window 12 including the following: information 13 e.g. as to scores which can be achieved;

a bank display 14;  
a jackpot display 15;  
a gamble display 16;  
a window bounding a digital (alphanumeric) display 17;  
a nudge ladder 18; and  
a jackpot ladder 19.

In use when the player inserts coins into the coin mechanism through the slot 10 sufficient to generate credit for one or more games the machine is actuated such that a game can now be played. Each game consists of five opportunities to spin the reels so as to select a combination of symbols displayed on the win line 20. In conventional manner, in each such spin procedure the reels rotate and come to rest after different respective periods of time. The game commences after the appropriate new game button 4 has been pressed and the five spin procedures may be implemented automatically in sequence, or if desired it may be necessary to press the button 4 to initiate each spin procedure.

At the start of each game a number of "nudge" steps is made available as indicated

on the nudge ladder 18. There may be an opportunity for the player to try to increase the number of nudges by pressing a button to arrest progression up and down the ladder as indicated by successive illumination of the ladder sections. The player can use the nudges during the game at the end of any spin procedure to try to improve the selected symbol combination by indexing one or more reels through one or more steps using the nudge buttons 5. It will be seen that the player has to exercise his skill and judgement to decide in which spin procedure or procedures to use the nudges. There may be an autonudge facility as described in Patents 2092797 and 2144568. At random at the start of some spin procedures a hold facility may be made available whereby one or more reels can be held against rotation during the ensuing spin procedure by operation of the hold buttons 5.

At the end of each spin procedure the displayed symbol combination is assessed by the control unit (from a knowledge of the starting positions of the reels and a knowledge of the number of stepping impulses fed to the stepper motor). A score is then allocated depending on the nature of the combination in accordance with the information at the display region 13. The scores are totalised from spin procedure to spin procedure and the current total during a game is shown on the digital display 17. At the end of the game the final total is assessed to see if it has reached a predetermined level (e.g. 1000 points). If it does, a payout is made available to the player.

The final total score is also checked against the previous highest score attained during an operating period (e.g. during a day or week etc.) and if the previous highest score has been exceeded the new score is stored in the machine and the player is given an opportunity of entering his initials on the digital display 17 using one or more of the buttons 5-9. The highest score and the identifying initials are displayed on the digital display 17 when games are not being played.

The gamble display 16 is actuated on a predetermined or random basis at the end of some or all spin procedures. Lose sections and double sections are illuminated alternately. By pressing an appropriate button the player can endeavour to arrest the gamble display when a double section is illuminated whereupon the attained score in that spin procedure or at the end of the game is doubled.

Whenever the requisite final score (i.e. 1000 points) is attained which is sufficient for the payout to be made available, the amount of the payout (e.g. £1.50) is indicated by illumination of appropriate sections of the bank display. There may be the opportunity of doubling (or losing) this using the gamble display 16.

The jackpot display 15 is related to the lad-

der display 19. At random, or in accordance with the display of special auxiliary symbols on the win line 20, sections of the ladder 19 can be successively illuminated and there is an opportunity to obtain an award e.g. at the end of the game, as indicated on the sections of the ladder. These awards are mostly bonus points to be added to the totalised score but there is also the possibility of a jackpot award. The jackpot award corresponds to the value of the number of sections of the jackpot display 15 which are illuminated at the end of the game. During play of the game the jackpot is "filled up" on a predetermined or random basis. There may also be a random jackpot double feature.

At the start of a game, when the start button 4 is pressed, the jackpot display, the score and the nudges may all reset. Alternatively they may retain their values from the previous game. The likelihood of the latter may be 50% and it will be appreciated that this gives an opportunity of attaining higher scores.

Although the jackpot display 15 is shown as having circular sections like the bank display 14, the jackpot display may "fill up" with scores (e.g. 50 points for each circular section) rather than filling up with monetary values, the total jackpot value being added to the main score when the jackpot is won.

With the arrangement described above, the player is assured of a prolonged period of entertainment since each game always involves five spin procedures and five opportunities to use features such as nudges etc. There is a decreased likelihood of achieving a payout since there are no small payouts only the large value payout which is made available each time a score of 1000 points is reached. However, the player can derive much entertainment and motivation from observation of his increasing totalised score.

It is of course to be understood that the invention is not intended to be restricted to the details of the above embodiment which are described by way of example only.

#### CLAIMS

1. A coin- (or token-) operated entertainment machine which is operable to play games involving a procedure in which a combination of symbols is selected and displayed, characterised in that in each game there is a plurality of opportunities to effect said selection and display procedure, each said procedure results in the production of a score determined by the selected combination, and a win indication is given at the end of the game in the event that said scores considered cumulatively are of a predetermined nature.

2. A machine according to claim 1, wherein each game involves a predetermined plurality of selection and display opportunities.

3. A machine according to claim 1 or 2,

wherein the individual scores are accumulated to give a total numerical value and the win indication is given in the event that a predetermined value is reached or exceeded.

4. A machine according to claim 3, wherein there are different categories of win indication corresponding to the attainment of different totalised score values.

5. A machine according to any one of claims 1 to 4, wherein the or each win indication is accompanied by the availability of a payout of coins and/or tokens.

6. A machine according to any one of claims 1 to 5, including a hold feature whereby one or more symbols can be held against change during a selection procedure.

7. A machine according to any one of claims 1 to 6, including a nudge feature whereby one or more symbols can be changed at the end of a selection procedure by stepwise indexing through a predetermined sequence of symbols.

8. A machine according to any one of claims 1 to 7, including a gamble feature whereby an opportunity is given of increasing the value of a score or award.

9. A machine according to any one of claims 1 to 8, wherein there is the possibility at the end of a game of carrying forward one or more features and/or the totalised score and/or an available payout to the next game.

10. A machine according to any one of claims 1 to 9, including a jackpot feature having a display which can fill up with scores or monetary awards during play of a game, whereby the player can be credited with the score value or monetary value by winning the jackpot.

11. A machine according to any one of claims 1 to 10, which is a fruit machine.

12. A machine according to claim 1, substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

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